AMENDMENTS TO CLAIMS

Claims 1-41 (cancelled)

42. Apparatus for performing parallel chemical reactions under pressure, said apparatus comprising first and second sets of reaction vessels, at least one of said vessel sets comprising more than one reaction vessel, a first source of a first fluid, a second source of a second fluid, a fluid manifold, said fluid manifold comprising a source selection portion, a fluid distribution portion and a valve portion interposed between said source selection portion and said fluid distribution portion, said source selection portion comprising means for selecting one of said fluid sources and for connecting said selected source to said valve portion, said fluid distribution portion comprising first and second fluid distribution channels, and means for separately connecting each of said fluid distribution channels to each of the reaction vessels in a different one of said reaction vessel sets, respectively, said valve portion comprising first and second independently actuatable valves each of which is associated with a different one of said fluid distribution channels in said fluid distribution portion, each of said valves, when actuated, connecting said source selecting means in said source selection portion and said associated fluid distribution channel in said fluid distribution portion.

43. The apparatus of Claim 42 wherein said first and second sets of reaction vessels comprise first and second rows of reaction vessels, respectively.

44. The apparatus of Claim 42 wherein said selecting means comprises a multiple-way fluid control valve.

45 The apparatus of Claim 44 wherein said multiple-way fluid control valve comprises a five- way fluid control valve.

46. The apparatus of Claim 42 wherein said connecting means further comprises means for separately sealing each of said reaction vessels with said fluid distribution channel.

47. The apparatus of Claim 46 wherein said sealing means comprises an o-ring and means for affixing said o-ring to said manifold.

48. The apparatus of Claim 42 wherein said source selection portion further comprises a pressure relief valve.

49. The apparatus of Claim 42 further comprising an explosion proof shield defining a closed interior space within which said reaction vessels are situated.

50. The apparatus of Claim 49 further comprising means for connecting one of said fluid sources and said interior space of said shield.

51. The apparatus of Claim 42 wherein said first and second valves comprise first and second valve stems, respectively and wherein said first and said second valve stems have different heights.

52. The apparatus of Claim 42 further comprising temperature sensing means and wherein one of said reaction vessels is adapted to receive said temperature sensing means.

53. Apparatus for performing parallel chemical reactions under pressure, said apparatus comprising an array of reaction vessels, said vessel array comprising first and second rows of reaction vessels, at least one of said vessel rows comprising more than one reaction vessel, a first source of a first fluid, a second source of a second fluid, a fluid manifold, said fluid manifold comprising a source selection portion, a fluid distribution portion and a valve portion interposed between said source selection portion and said fluid distribution portion, said source selection portion comprising means for selecting one of said fluid sources and for connecting said selected source to said valve portion, said fluid distribution portion comprising first and second fluid distribution channels, and means for separately connecting each of said fluid distribution channels with each of the reaction vessels in a different one of said rows, respectively, said valve portion comprising first and second independently actuatable valves each of which is associated with a different one of said fluid distribution channels in said fluid distribution portion, each of said valves, when actuated, connecting said source selecting means in said source selection portion and said associated fluid distribution channel in said fluid distribution portion.

54. The apparatus of Claim 53 wherein said selecting means comprises a multiple-way fluid control valve.

55. The apparatus of Claim 54 wherein said multiple-way fluid control valve comprises a five- way fluid control valve.

56. The apparatus of Claim 53 wherein said connecting means further comprises means for separately sealing each of said reaction vessels with said fluid distribution channel.

57. The apparatus of Claim 56 wherein said sealing means comprises an o-ring and means for affixing said o-ring to said manifold.

58. The apparatus of Claim 53 wherein said source selection portion further comprises a pressure relief valve.

59. The apparatus of Claim 53 further comprising an explosion proof shield defining a closed interior space within which said reaction vessels are situated.

60. The apparatus of Claim 59 further comprising means for connecting one of said fluid sources and said interior space of said shield.

61. The apparatus of Claim 53 wherein first and second valves comprise first and second valve stems, respectively and wherein said first and said second valve stems have different heights.

62. The apparatus of Claim 53 further comprising temperature sensing means and wherein one of said reaction vessels is adapted to receive said temperature sensing means.

63. Apparatus for performing parallel chemical reactions under pressure, said apparatus comprising a plurality of sets of reaction vessels, at least one of said vessel sets comprising more than one reaction vessel, a first source of a first fluid, a second source of a second fluid, a fluid manifold, said fluid manifold comprising a first portion, a second portion and an intermediate portion interposed between said first portion and said second portion, said first portion

comprising means for selecting one of said fluid sources and for connecting said selected source to said intermediate portion, said second portion comprising a plurality of fluid distribution channels, and means for separately connecting each of said fluid distribution channels with each of the reaction vessels in a different one of said reaction vessel sets, respectively, said intermediate portion comprising a plurality of independently actuatable valves, each of said valves being associated with a different one of said fluid distribution channels in said second portion, each of said valves, when actuated, connecting said source selecting means in said first portion and said associated fluid distribution channel in said second portion.

64. The apparatus of Claim 63 wherein said first and second sets of reaction vessels comprise first and second rows of reaction vessels, respectively.

65. The apparatus of Claim 63 wherein said selecting means comprises a multiple-way fluid control valve.

66. The apparatus of Claim 65 wherein said multiple-way fluid control valve comprises a five- way fluid control valve.

67. The apparatus of Claim 63 wherein said manifold further comprises means for separately sealing each of said reaction vessels.

68. The apparatus of Claim 67 wherein said sealing means comprises an o-ring and means for affixing said o-ring to said manifold.

69. The apparatus of Claim 63 wherein said first portion further comprises a pressure relief valve.

70. The apparatus of Claim 63 further comprising an explosion proof shield defining a closed interior space within which said reaction vessels are situated.

71. The apparatus of Claim 70 further comprising means for connecting one of said fluid sources and said interior space of said shield.

72. The apparatus of Claim 63 wherein each of said valves comprise a valve stem, and wherein said valve stems have different heights.

73. The apparatus of Claim 63 further comprising temperature sensing means and wherein one of said reaction vessels is adapted to receive said temperature sensing means.